

What I claim is:

1. A system for creating waves at the surface of a liquid contained in a pool presenting an average level, this system comprising:

- one or more means of action on the liquid chosen from injectors and explicit vortices
- one or more pipe to link the means of action to one or more source of a fluid under pressure superior to the pressure exercised by the liquid on the means of action
- a control device chosen from the group comprising devices to control the speed of the fluid ejected from the means of action, devices to control the pressure of fluid ejected from the means of action, mobile directional systems for one or more means of action, a mask system, a mobile directional flow system for the means of action.

in which said means of action are chosen from a group comprising:

- means of action that, at least in an intermittent fashion, direct the fluid in the liquid according to a principal direction forming an angle between -30° and 30° , in relation to a vertical axis.
- means of action that, at least in an intermittent fashion, will direct the fluid in the liquid according to a principal direction forming an angle between -30° and 30° , in relation to a horizontal axis.
- means of action that direct, at least in an intermittent manner, the fluid along one or more wall submerged in the liquid.
- means of action that direct, at least in an intermittent manner, the fluid against one or more wall submerged in the liquid.
- means of action that direct the fluid in the direction of movement of an action zone of one or more other means of action.
- means of action directing the fluid into an action zone crossing the action zone of one or more other means of action.
- means of action directing the fluid in a direction opposing the direction of an action zone of one or more other means of action, and

- with a combination of these,

and in which the control device comprises a means adapting one or more parameter of the fluid ejecting from aforesaid to one or more means of action in relation to the surface state of at least part of the liquid, said parameter being chosen from a group comprising the speed of the fluid, the pressure of the fluid, the direction of the fluid, and combinations of these.

2. The system of claim 1, comprising several means of action.
3. The system of claim 1, comprising a means of detection of a surface state of the liquid.
4. The system of claim 1, comprising at least four means of action.
5. The system of claim 1, comprising at least 20 means of action.
6. The system of claim 1, in which each means of action is adapted to ensure a fluid speed at the output of the means of action such that the speed of fluid at its site of action on the liquid is greater than 2 m/s, being understood that this speed is greater than the wave speed in this area.
7. The system of claim 1, in which each means of action is adapted to ensure a fluid speed at the output of the means of action such that the speed of fluid at its place of action on the liquid is greater than 10 m/s, being understood that this speed is greater than the wave speed in this area.
8. The system of claim 1, in which each means of action is adapted to ensure a fluid speed at the output of the means of action such that the speed of fluid at its place of action on the liquid is greater than 15 m/s, being understood that this speed is greater than the speed of the wave in this area.

9. The system of claim 1, in which each means of action is adapted to ensure a maximum fluid output of less than 2 l/s per means of action.
10. The system of claim 1, in which each means of action is adapted to ensure a maximum fluid output of less than 1 l/s per means of action.
11. The system of claim 1, in which each means of action is adapted to ensure a maximum fluid output of less than 0.5 l/s per means of action.
12. The system of claim 1, in which each means of action is adapted to ensure a maximum fluid output of less than 0.25 l/s per means of action.
13. The system of claim 1, in which each means of action is adapted to ensure an action zone of over 20cm in length.
14. The system of claim 1, in which each means of action is adapted to ensure an action zone of over 40cm in length.
15. The system of claim 1, in which each means of action is adapted to ensure an action zone at least equal in length to the difference in level between the minimum wave trough level, and the maximum wave peak level.
16. The system of claim 1, in which the control system ensures an injection of fluid by one or more means of action into an area of the pool when the wave goes in the same direction as the direction of the means of action.
17. The system of claim 1, in which it comprises a first series of means of action, and a second series of means of action, and in which the control mechanism controls one or more parameter chosen from amongst speed, pressure and direction of the fluid output from the means of action, such that when the speed and/or pressure of the fluid output from the means of action is detectably nil, the speed and/or pressure



of the fluid output from the means of action of the other series is detectably maximum.

18. The system of claim 1, comprising a first series of means of action, and a second series of means of action, and in which the control mechanism controls one or more parameter chosen from amongst speed, pressure and direction of the fluid output from the means of action, such that when the speed and/or pressure of the fluid output from the means of action is nil, the speed and/or pressure of the fluid output from the means of action of the other series is maximal.

19. The system of claim 1, comprising at last one appreciably vertical series of means of action and one formed piece, adapted to the shape of a form chosen from the shape of a corner and a submerged edge of the pool.

20. The system of claim 19, in which the formed piece contains an absorber to dissipate to dispel the jet of a continuous means of action in its inactive phase.

21. The system of claim 1, including one means chosen from a group comprising the means to create a fluid under pressure and the means to create a fluid presenting a speed superior to that of the wave.

22. The system of claim 21, including one means to create a fluid presenting, after its release, a speed superior to the speed of the liquid in the wave, in the area where the speed of the wave is maximal.

23. The system of claim 1, in which the means chosen from a group comprising the means to create a fluid under pressure and the means to create a fluid presenting a speed superior to that of the wave, is chosen from the group comprising the means of pressurizing a gas, means of pressurizing a liquid, and means to ensure the speed of a fluid.



24. The system of claim 1, including one or more pumps submerged in the pool.

25. The system of claim 1, comprising a control device chosen from a group comprising control mechanisms controlling the direction of the jet of fluid ejected from the means of action, control mechanisms controlling the intermission of the jet of fluid ejected from the means of action and the control devices controlling a component capable of being placed in the flux of the fluid output of a means of action.

said control device comprising:

- a submerged component presenting one surface with one or more window for the at least intermittent passage of fluid ejected from one or more means of action, and
- a system chosen from a system inducing a relative movement between the output of one or more means of action and the window of the immersed component and a system controlling a relative movement between the window and a closing component adapted to seal, at least partially, said window.

26. The system of claim 25, in which the system is linked to one or more means of action destined to induce a rotational movement of said means of action

27. The system of claim 1, which comprises a control device chosen from a group comprising control mechanisms controlling the direction of the jet of fluid ejected from the means of action, control mechanisms controlling the intermittent operation of the jet of fluid ejected from the means of action and the control devices controlling a component capable of being placed in the flux of the fluid output of a means of action.

said control device comprising:

- a submerged component presenting one surface with one or more window for the at least intermittent passage of fluid ejected from one or more means of action, and

- a system chosen from a system inducing a relative movement between the output of one or more means of action and the window of the immersed component and a system controlling a relative movement between the window and a closing component adapted to seal, at least partially, the aforementioned window.

in which the system is linked to one or more means of action destined to induce a rotational back-and-forth movement of the aforesaid means of action

28. The system of claim 27, in which the system is adapted to ensure a back-and-forth movement having an amplitude between -15° and $+15^\circ$ from an upwards vertical direction.

29. Process for creating waves on the surface of a liquid contained in a pool, in which

- one or more fluids is injected into the liquid by means of various means of action, and
- the function of the means of action is controlled such that one or more means of action act upon the liquid to ensure an effect chosen from among a group comprising: amplification of the trough of a wave, amplification of the peak of a wave, amplification of a horizontal movement, and combinations of these.

30. Process for creating waves on the surface of a liquid contained in a pool, in which

- one or more fluids is injected into the liquid by means of various means of action, and
- the direction of the fluid ejected from the means of action is controlled such that one or more means of action act upon the liquid to ensure an effect chosen from a group comprising: amplification of the trough of a wave, amplification of the peak of a wave, amplification of a horizontal movement, and combinations of these.



31. The system of claim 29, in which the system is used in a pool of average level, this system comprising:

- one or more means of action on the liquid chosen from injectors and explicit vortices
- one or more pipes to link one or more means of action to one or more sources of a fluid under pressure superior to the pressure exercised by the liquid on one or more means of action,
- a control device chosen from the group comprising devices to control the speed of the fluid ejected from the means of action, devices to control the pressure of fluid ejected from one or more means of action, mobile directional systems for one or more means of action, a mask system, a mobile directional flow system for the means of action.

in which one or more of the aforementioned means of action are chosen from a group comprising:

- means of action that, at least in an intermittent fashion, will direct the fluid in the liquid according to a principal direction forming an angle between -30° and 30° , in relation to a vertical or horizontal axis.
- means of action, which, at least in an intermittent fashion, will direct the fluid in the liquid according to a principal direction forming an angle between -30° and 30° , in relation to a vertical or horizontal axis.
- means of action, which will, at least in an intermittent manner, direct, the fluid along one or more walls submerged in the liquid.
- means of action, which will, at least in an intermittent manner, direct the fluid against one or more walls submerged in the liquid.
- means of action, which will direct the fluid in the direction of the movement of an action zone of one or more other means of action.
- means of action directing the fluid into an action zone crossing the area of action of one or more other means of action.
- means of action directing the fluid in a direction opposing the direction of an area of action of one or more other means of action, and
- with a combination of these,

and in which the control device contains a means adapting at least one parameter of the fluid ejecting from aforesaid to one or more means of action in relation to the surface state of the liquid, the aforementioned parameter being chosen from a group comprising the speed of the fluid, the pressure of the fluid, the direction of the fluid, and combinations of these.

32. The procedure of claim 30, in which one uses a system in a pool of average level, this system comprising:

- one or more means of action on the liquid chosen from injectors and explicit vortices
- one or more pipes to link one or more means of action to one or more source of a fluid under pressure superior to the pressure exercised by the liquid on one or more means of action,
- a control device chosen from the group comprising devices to control the speed of the fluid ejected from the means of action, devices to control the pressure of fluid ejected from one or more means of action, mobile directional systems for one or more means of action, a mask system, a mobile directional flow system for the means of action.

in which one or more of the aforementioned means of action are chosen from a group comprising:

- means of action which, at least in an intermittent fashion, will direct the fluid in the liquid according to a principal direction forming an angle between -30° and 30° , in relation to a vertical axis,
- means of action, which, at least in an intermittent fashion, will direct the fluid in the liquid according to a principal direction forming an angle between -30° and 30° , in relation to a horizontal axis.
- means of action that will, at least in an intermittent manner, direct, the fluid along one or more wall submerged in the liquid.
- means of action which will, at least in an intermittent manner, direct the fluid against one or more wall submerged in the liquid,

- means of action, which will direct the fluid in the direction of the movement of an action zone of one or more other means of action.
- means of action directing the fluid into an area of action crossing the action zone of one or more other means of action.
- means of action directing the fluid in a direction opposing the direction of an action zone of one or more other means of action, and
- with a combination of these,

and in which the control device contains a means adapting one or more parameter of the fluid ejecting from aforesaid to one or more means of action in relation to the surface state of the liquid, the aforementioned parameter being chosen from a group comprising the speed of the fluid, the pressure of the fluid, the direction of the fluid, and combinations of these.